PB-239 548

SLATERSVILLE RESERVOIRS, PROVIDENCE COUNTY, RHODE ISLAND

Pacific Northwest Environmental Research Laboratory

Prepared for:

National Environmental Research Center
Rhode Island Department of Health
Massachusetts Water Resources Commission
Rhode Island National Guard

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16. ABSTRACT
Annual total phosphorus and total nitrogen loadings to the lake were estimated and subdivded according to either point or non-point source origin. An assessment of the lake's trophic condition and limiting nutrient is also provided. All data collected by the U.S.E.P.A. National Eutrophication Survey during the one year study of the lake and its tributaries are included in the report.

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REPORT
ON
SLATERSVILLE RESERVOIRS
PROVIDENCE COUNTY
RHODE ISLAND

EPA REGION I

WORKING PAPER No. 28

WITH THE COOPERATION OF THE

RHODE ISLAND STATE DEPARTMENT OF HEALTH

AND THE

RHODE ISLAND NATIONAL GUARD

SEPTEMBER, 1974

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FOREWORD

The National Eutrophication Survey was initiated in 1972 in response to an Administration commitment to investigate the nationwide threat of accelerated eutrophication to fresh water lakes and reservoirs.

OBJECTIVES

The Survey was designed to develop, in conjunction with state environmental agencies, information on nutrient sources, concentrations, and impact on selected freshwater lakes as a basis for formulating comprehensive and coordinated national, regional, and state management practices relating to point-source discharge reduction and non-point source pollution abatement in lake watersheds.

ANALYTIC APPROACH

The mathematical and statistical procedures selected for the Survey's eutrophication analysis are based on related concepts that:

a. A generalized representation or model relating sources, concentrations, and impacts can be constructed.

b. By applying measurements of relevant parameters associated with lake degradation, the generalized model can be transformed into an operational representation of a lake, its drainage basin, and related nutrients.

c. With such a transformation, an assessment of the potential for eutrophication control can be made.

LAKE ANALYSIS

In this report, the first stage of evaluation of lake and watershed data collected from the study lake and its drainage basin is documented. The report is formatted to provide state environmental agencies with specific information for basin planning [§303(e)], water quality criteria/standards review [§303(c)], clean lakes [§314(a,b)], and water quality monitoring [§106 and §305(b)] activities mandated by the Federal Water Pollution Control Act Amendments of 1972.

Beyond the single lake analysis, broader based correlations between nutrient concentrations (and loading) and trophic condition are being made to advance the rationale and data base for refinement of nutrient water quality criteria for the Nation's fresh water lakes. Likewise, multivariate evaluations for the relationships between land use, nutrient export, and trophic condition, by lake class or use, are being developed to assist in the formulation of planning guidelines and policies by EPA and to augment plans implementation by the states.

ACKNOWLEDGMENT

The staff of the National Eutrophication Survey (Office of Research & Development, U. S. Environmental Protection Agency) expresses sincere appreciation to the Rhode Island Division of Water Supply and Pollution Control for professional involvement and to the Rhode Island National Guard for conduct of the tributary sampling phase of the Survey.

Carleton A. Maine, Chief, and James W. Fester, Principal Sanitary Engineer of the Rhode Island Division of Water Supply and Pollution Control provided invaluable lake documentation and counsel during the course of the Survey.

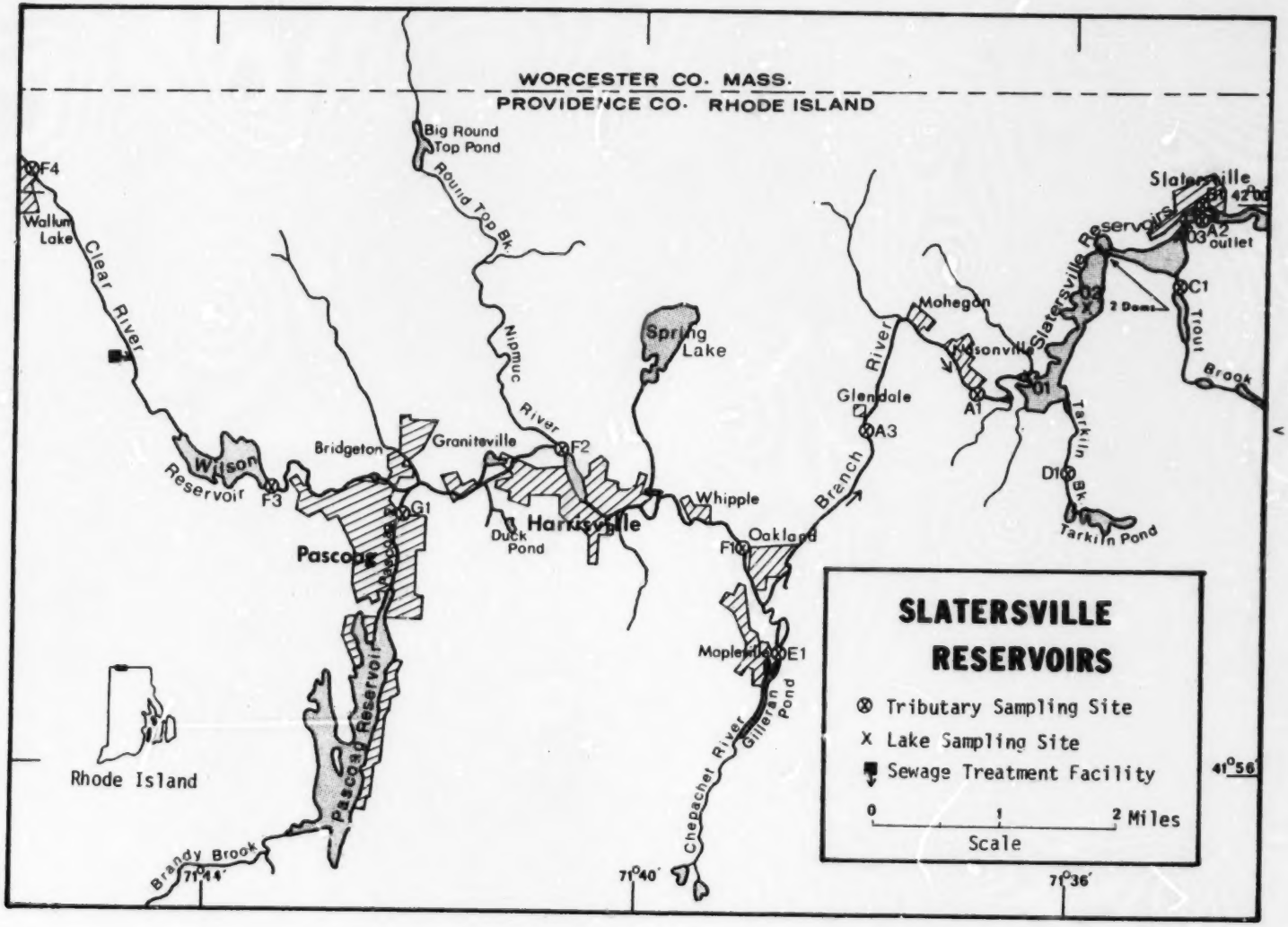
Major General Leonard Holland, the Adjutant General of Rhode Island, and Project Officer Colonel Clarence Bozar, who directed the volunteer efforts of the Rhode Island National Guardsmen, are also gratefully acknowledged for their assistance to the Survey.

NATIONAL EUTROPHICATION SURVEY

STUDY LAKES

STATE OF RHODE ISLAND

LAKE NAME	COUNTY
Harris Pond	Providence, RI; Worchester, MA
Slatersville Reservoir	Providence, RI
Turner Reservoir	Providence, RI; Bristol, MA


WORCESTER CO. MASS.
PROVIDENCE CO. RHODE ISLAND
Big Round Top Pond
Round Top Bk
F4
Wallum Lake
Clear River
Nipmuc River
Spring Lake
Mohegon
Slatersville Reservoirs
A2 outlet
C1
2 Dams
Trout Brook
Glendale
A3
A1
D1
Tarkiln Bk
Tarkiln Pond
Bridgeton
Graniteville
F2
Wilson Reservoir
F3
G1
Pascoag
Duck Pond
Harrisville
Whipple
Oakland
F1
Branch River
Maple Dale
E1
Pascoag Reservoir
Chepachet River
Gillerain Pond
Rhode Island
Brandy Brook
71°44'
71°40'
71°36'
41°56'
SLATERSVILLE RESERVOIRS
Tributary Sampling Site
Lake Sampling Site
Sewage Treatment Facility
0 1 2 Miles
Scale

SLATERSVILLE RESERVOIRS

STORET NO. 4402

I. CONCLUSIONS

A. Trophic Condition:

The moderate nutrient levels and the relatively low algal assay control yield indicate the Slatersville Reservoirs are only mildly eutrophic. However, heavy spring algal blooms have been reported in both Reservoirs, and the lower Reservoir reportedly has abundant submerged vegetation.

It is evident that the very short hydraulic retention time is suppressing the effects of high nutrient loading rates and preventing the occurrence of frequent and prolonged nuisance conditions.

B. Rate-Limiting Nutrient:

Algal assay results show the Reservoirs were phosphorus limited at the time the assay sample was collected.

C. Nutrient Controllability:

1. Point sources--During the sampling year, the Slatersville Reservoirs received a total phosphorus load at a rate over two times greater than that proposed by Vollenweider (in press) as a "dangerous" rate; i.e., a eutrophic rate (see page 18).

The Zambarano Memorial Hospital (Wallum Lake Sanitarium) wastewater treatment plant is the only known point source contributing to the Slatersville Reservoirs at this time, and

this source contributed less than 20 percent of the phosphorus load to the Reservoirs at the point of discharge. Moreover, Wilson Reservoir and at least seven other lesser impoundments provided phosphorus entrapment and/or biological assimilation in the 12 or so stream miles between the treatment plant discharge point and upper Slatersville Reservoir, so the amounts of phosphorus from this source that reached the Reservoirs must be considerably less than the indicated 1,670 pounds during the sampling year. Even if the entire phosphorus load from the plant actually reached the Reservoirs, complete removal of phosphorus at that source would only reduce the loading rate to about 42 lbs/acre/yr or 4.7 $g/m^2/yr$ (a rate still about twice the eutrophic rate). Therefore, it is unlikely that phosphorus removal at the Hospital treatment plant would result in any appreciable improvement in the trophic condition of the Slatersville Reservoirs.

The engineering firm of CE Maguire, Inc., Providence, RI, has prepared plans for a regional sewerage system to serve all of the population centers of the township of Burrillville with construction scheduled to begin during 1976 (Hoernle, 1973). The activated sludge plant serving the system will be located at the village of Whipple, and the effluent will be discharged to the Pascoag (Clear) River about five stream miles above Upper Slatersville Reservoir.

As presently planned, the Burrillville system does not include phosphorus removal; but by the time the design population of 8,500 persons is being served, the system will have about tripled the existing phosphorus loading to the Slatersville Reservoirs (assuming 20% removal of 3.5 lbs P/capita/yr). A phosphorus load of that magnitude will certainly affect the trophic condition of the Reservoirs; and provision of phosphorus removal or a high degree of operation of the treatment plant will be necessary if deterioration of the present trophic condition of the Reservoirs is to be prevented.

Although the protection of public health that will be provided by the regional system is of primary importance, consideration should be given to inclusion of phosphorus removal during one of the later stages of system development unless it has been determined that operation of the activated-sludge treatment plant results in satisfactory phosphorus removal.

2. Non-point sources--The nutrient exports of Trout Brook and Tarkiln Brook (see page 18) compare well with those of unimpacted Quick Brook at nearby Harris Pond (see Working Paper No. 27, "Report on Harris Pond"); however, the exports of the Branch River were much higher.

Assuming the means of the exports of Trout Brook and Tarkiln Brook are representative of non-point nutrient contributions in the

drainage, the excess contributions of the Branch River (66 lbs P and 666 lbs N/mi^2/yr) are attributable to unmeasured point sources. For the year, then, unmeasured point sources in the Branch River drainage contributed about 4,900 lbs of phosphorus (47% of the total P load) and about 49,100 lbs of nitrogen (25% of the total N load).

II. INTRODUCTION

The Slatersville Reservoirs were formed in the 1800's by two impoundments of the Branch River to provide water power for the Slater Textile Mill (se map, page v). The Mill has since been converted to light manufacturing, and the water power is no longer utilized.

The Reservoirs are relatively shallow but do support some fishing. Largemouth bass and yellow perch are the most common species in the lower Reservoir, while black crappies predominate in the upper Reservoir where species diversity and growth rates are reported to be somewhat better. Public access is rather limited at both Reservoirs, and little other recreational use is made of the water bodies.

The shorelines of both Reservoirs are in private ownership and are mostly wooded and undeveloped except for the eastern two-thirds of the north shoreline of the lower Reservoir. Most of the homes in this area are set well back from the shoreline.

The drainage area is characterized by mixed coniferous and deciduous forests with little agricultural use. Most of the urbanized areas lie along the Pascoag, Clear, and Branch rivers in the township of Burrillville. It is estimated that 70 percent of the township population of about 10,000 persons lives in these urban areas.

III. LAKE AND DRAINAGE BASIN CHARACTERISTICS

A. Lake Morphometry*:

1. Surface area: 207 acres.
2. Mean depth: 8 feet.
3. Maximum depth: 23 feet.
4. Volume: 1,656 acre/feet.
5. Mean hydraulic retention time: 5 days.

B. Tributary and Outlet:
(See Appendix A for flow data)

1. Tributaries -

Name	Drainage area**	Mean flow**
Branch River	73.7 mi^2	128.5 cfs
Trout Brook	2.5 mi^2	4.3 cfs
Tarkiln Brook	9.2 mi^2	16.0 cfs
Minor tributaries & immediate drainage -	4.1 mi^2	7.7 cfs
Totals	89.5 mi^2	156.5 cfs

2. Outlet -

Branch River	89.7 $mi^{2\dagger\dagger}$	156.5 cfs

C. Precipitation††:

1. Year of sampling: 56.8 inches.
2. Mean annual: 40.4 inches.

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* Anonymous, 1970.
** Drainage areas are accurate within ±1%; gaged flows are accurate within ±15%; and ungaged flows are accurate within ±20%.
† Includes area of Reservoirs; outflow adjusted to equal sum of inflows.
†† See Working Paper No. 1, "Survey Methods".

IV. LAKE WATER QUALITY SUMMARY

The Slatersville Reservoirs were sampled three times during the open-water season of 1972 by means of a pontoon-equipped Huey helicopter. Each time, samples for physical and chemical parameters were collected from three stations on the Reservoirs and from one or more depths at each station (see map, page v). During each visit, a single depth-integrated (near bottom to surface) sample was composited from the stations for phytoplankton identification and enumeration; and during the last visit, a single five-gallon depth-integrated sample was composited for algal assays. Also each time, a depth-integrated sample was collected from each of the stations for chlorophyll a analysis. The maximum depths sampled were 4 feet at station 1, 10 feet at station 2, and 15 feet at station 3.

The results obtained are presented in full in Appendix B, and the data for the fall sampling period, when the Reservoirs were essentially well-mixed, are summarized below. Note, however, the Secchi disc summary is based on all values. Although the results were similar in value and pattern, summaries are provided for each Reservoir as well as for the combined results.

For differences in the various parameters at the other sampling times, refer to Appendix B.

A. Physical and chemical characteristics:

1. UPPER SLATERSVILLE RESERVOIR -

FALL VALUES

(10/06/72)

Parameter	Minimum	Mean	Median	Maximum
Temperature (Cent.)	14.1	15.0	14.6	16.3
Dissolved oxygen (mg/l)	9.6	10.1	10.2	10.5
Conductivity (μmhos)	90	98	91	108
pH (units)	6.6	6.9	6.8	7.1
Alkalinity (mg/l)	10	13	10	25
Total P (mg/l)	0.027	0.033	0.033	0.038
Dissolved P (mg/l)	0.009	0.011	0.012	0.013
NO_2 + NO_3 (mg/l)	0.050	0.322	0.320	0.820
Ammonia (mg/l)	0.070	0.208	0.080	0.730
		ALL VALUES		
Secchi disc (inches)	54	55	55	56

2. LOWER SLATERSVILLE RESERVOIR -

FALL VALUES

(10/06/72)

Parameter	Minimum	Mean	Median	Maximum
Temperature	16.0	16.1	16.1	16.2
Dissolved oxygen	7.2	7.3	7.3	7.4
Conductivity	91	92	91	93
pH	6.4	6.5	6.5	6.6
Alkalinity	10	10	10	10
Total P	0.029	0.032	0.032	0.036
Dissolved P	0.009	0.011	0.010	0.014
NO_2 + NO_3	0.080	0.110	0.120	0.130
Ammonia	0.080	0.173	0.210	0.230
		ALL VALUES		
Secchi disc	45	45	45	45

3. COMBINED DATA -

FALL VALUES

(10/06/72)

Parameter	Minimum	Mean	Median	Maximum
Temperature	14.1	15.4	16.0	16.3
Dissolved oxygen	7.2	9.0	9.6	10.5
Conductivity	90	95	91	108
pH	6.4	6.7	6.6	7.1
Alkalinity	10	12	10	25
Total P	0.027	0.032	0.032	0.038
Dissolved P	0.009	0.011	0.011	0.014
$NO_2 + NO_3$	0.050	0.242	0.125	0.820
Ammonia	0.070	0.195	0.080	0.730
		ALL VALUES		
Secchi disc	40	53	56	66

B. Biological characteristics:

1. Phytoplankton -

Sampling Date	Dominant Genera	Number per ml
06/04/72	1. Flagellates	391
	2. Anabaena	228
	3. Cryptomonas	145
	4. Tabellaria	119
	5. Raphidiopsis	61
	Other genera	188
	Total	1,132
08/01/72	1. Chroococcus	384
	2. Microcystis	309
	3. Merismopedia	286
	4. Fragilaria	241
	5. Dinobryon	151
	Other genera	852
	Total	2,223
10/06/72	1. Dictyosphaerium	1,175
	2. Cryptomonas	663
	3. Flagellates	376
	4. Scenedesmus	301
	5. Synedra	211
	Other genera	1,114
	Total	3,840

2. Chlorophyll a -
(Because of instrumentation problems during the 1972 sampling, the following values may be in error by plus or minus 20 percent.)

Sampling Date	Station Number	Chlorophyll a (µg/l)
06/04/72	01*	11.7
	02*	6.4
	03**	2.3
08/01/72	01	7.9
	02	4.6
	03	4.1
10/06/72	01	4.6
	02	16.9
	03	14.4

C. Limiting Nutrient Study (combined upper and lower Reservoir sample):

1. Autoclaved, filtered, and nutrient spiked -

Spike (mg/l)	Ortho P Conc. (mg/l)	Inorganic N Conc. (mg/l)	Maximum yield (mg/l-dry wt.)
Control	0.008	0.220	0.2
0.006 P	0.014	0.220	0.7
0.012 P	0.020	0.220	2.3
0.024 P	0.032	0.220	3.4
0.060 P	0.068	0.220	2.9
0.060 P + 10.0 N	0.068	10.220	15.0
10.0 N	0.008	10.220	0.1

2. Discussion -

The control yield of the assay alga, Selenastrum capricornutum, indicates a relatively low level of potential primary productivity in the Reservoirs at the time the sample was collected. Also, the increased yields with increased

* Upper Reservoir.
** Lower Reservoir.

levels of orthophosphorus (to about 0.032 mg/l) show that the Reservoirs were phosphorus limited at that time (note that the addition of only nitrogen resulted in a yield not significantly different from the control yield).

Field data confirm the conclusion that the Reservoirs generally are phosphorus limited. With the exception of the June sample from the lower Reservoir (station 03), all samples showed nitrogen/phosphorus ratios of 14 to 1 or greater (i.e., phosphorus limitation would be expected). However, the June sample at station 03 showed a N/P ratio of about 9 to 1, indicating a slight nitrogen limitation at that time.

D. Trophic Condition:

Data obtained during the Survey indicate both Reservoirs are mildly eutrophic. Nutrient concentrations were generally moderate, and the algal assay indicated a relatively low level of potential primary productivity at the time the assay sample was collected. However, the moderately high chlorophyll a and low Secchi disc transparencies are indicative of a more eutrophic condition.

Heavy spring algal blooms have been reported in both Reservoirs, and abundant growths of submerged vegetation occur in the lower Reservoir.

The apparent trophic condition of both Reservoirs is greatly influenced by the very short hydraulic retention time. With such "flow-through" conditions, there is little or no accumulation of nutrients, and Reservoir concentrations remain moderate in spite of annual loadings of 50 lbs/acre/yr of phosphorus and 963 lbs/acre/yr of nitrogen.

V. NUTRIENT LOADINGS
(See Appendix C for data)

For the determination of nutrient loadings, the Rhode Island National Guard collected monthly near-surface grab samples from each of the tributary sites indicated on the map (page v), except for the high runoff months of March and April when two samples were collected. Sampling was begun in August, 1972, and was completed in July, 1973.

Through an interagency agreement, stream flow estimates for the year of sampling and a "normalized" or average year were provided by the New England District Office of the U.S. Geological Survey for the tributary sites nearest the lake.

In this report, nutrient loads for sampled tributaries were calculated with mean annual concentrations and mean annual flows. Nutrient loadings for unsampled "minor tributaries and immediate drainage" ("ZZ" of U.S.G.S.) were estimated by using the means of the nutrient loads, in $lbs/mi^2/year$, at stations C-1 and D-1 and multiplying the means by the ZZ area in mi^2.

Discharges from the Zambarano Memorial Hospital wastewater treatment plant were sampled by personnel of the Rhode Island Department of Health on a monthly basis, and flow data were provided.

In the following tables, the nutrient loads attributed to the Branch River are those measured at station A-1 <u>minus</u> the Zambarano Hospital loads.

A. Waste Sources:

1. Known municipal -

Name	Pop. Served	Treatment	Mean Flow (mgd)	Receiving Water
Zambarano Mem. Hospital	923	act. sludge	0.080	Clear River

2. Industrial - Unknown

B. Annual Total Phosphorus Loading - Average Year:

1. Inputs -

Source	lbs P/ yr	% of total
a. Tributaries (non-point load) -		
Branch River	7,940	76.6
Trout Brook	100	1.0
Tarkiln Brook	410	4.0
b. Minor tributaries & immediate drainage (non-point load) -	170	1.6
d. Known municipal STP's -		
Zambarano Memorial Hospital	1,670	16.1
d. Septic tanks* -	40	0.4
e. Industrial - Unknown	-	-
f. Direct precipitation** -	30	0.3
Total	10,360	100.0

2. Outputs -

Lake outlet - Branch River 8,630

3. Net annual P accumulation - 1,730 pounds

* Estimated population of 150 persons within 300 feet of Reservoirs at 0.25 lbs P and 9.4 lbs N/capita/yr.
** Estimated; see Working Paper No. 1.

C. Annual Total Nitrogen Loading - Average Year:

1. Inputs -

Source	lbs N/ yr	% of total
a. Tributaries (non-point load) -		
Branch River	166,160	83.3
Trout Brook	3,450	1.7
Tarkiln Brook	16,540	8.3
b. Minor tributaries & immediate drainage (non-point load) -	6,510	3.3
c. Known municipal STP's -		
Zambarano Memorial Hospital	3,330	1.7
d. Septic tanks* -	1,410	0.7
e. Industrial - Unknown	-	-
f. Direct precipitation** -	1,990	1.0
Total	199,390	100.0

2. Outputs -

Lake outlet - Branch River 195,940

3. Net annual N accumulation - 3,450 pounds

* Estimated population of 150 persons within 300 feet of Reservoirs at 0.25 lbs P and 9.4 lbs N/capita/yr.
** Estimated; see Working Paper No. 1.

D. Mean Annual Non-point Nutrient Export by Subdrainage Area:

Tributary	lbs P/mi^2/yr	lbs N/mi^2/yr
Branch River	108	2,255
Trout Brook	40	1,380
Tarkiln Brook	45	1,798

E. Yearly Loading Rates:

In the following table, the existing phosphorus loading rates are compared to those proposed by Vollenweider (in press). Essentially, his "dangerous" rate is the rate at which the receiving waters would become eutrophic or remain eutrophic; his "permissible" rate is that which would result in the receiving water remaining oligotrophic or becoming oligotrophic if morphometry permitted. A mesotrophic rate would be considered one between "dangerous" and "permissible".

	Total Phosphorus		Total Nitrogen	
Units	Total	Accumulated	Total	Accumulated
lbs/acre/yr	50.0	8.4	963.2	16.7
grams/m^2/yr	5.61	0.94	108.0	1.9

Vollenweider loading rates for phosphorus ($g/m^2/yr$) based on mean depth and mean hydraulic retention time of the Slatersville Reservoirs:

"Dangerous" (eutrophic rate)	2.40
"Permissible" (oligotrophic rate)	1.20

VI. LITERATURE REVIEWED

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TRIBUTARY FLOW INFORMATION FOR RHODE ISLAND 7/9/74

LAKE CODE 4402 SLATERSVILLE RESERVOIR

TOTAL DRAINAGE AREA OF LAKE 89.70

TRIBUTARY	SUB-DRAINAGE AREA	NORMALIZED FLOWS JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
4435A1	73.70	161.00	184.00	264.00	233.00	156.00	86.20	42.50	43.80	55.30	63.50	112.00	145.00	128.48
4435A2	89.70	196.00	223.00	321.00	283.00	189.00	105.00	51.70	53.30	67.30	77.20	136.00	177.00	156.18
4435B1	89.70	196.00	223.00	321.00	283.00	189.00	105.00	51.70	53.30	67.30	77.20	136.00	177.00	156.18
4435C1	2.46	5.40	6.10	8.80	7.80	5.20	2.90	1.40	1.50	1.80	2.10	3.70	4.80	4.28
4435D1	9.15	20.00	22.80	32.80	28.90	19.30	10.70	5.30	5.40	6.90	7.90	13.90	18.00	15.95
4435Z7	4.40	9.60	11.00	15.80	13.90	9.30	5.10	2.50	2.60	3.30	3.80	6.70	8.70	7.67

SUMMARY

TOTAL DRAINAGE AREA OF LAKE = 89.70
SUM OF SUB-DRAINAGE AREAS = 89.72

TOTAL FLOW IN = 1882.00
TOTAL FLOW OUT = 3759.00

MEAN MONTHLY FLOWS AND DAILY FLOWS

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
4435A1	8	72	56.10	30	40.50				
	9	72	69.10	9	46.20				
	10	72	141.00	14	150.00				
	11	72	384.00	4	152.00				
	12	72	486.00	9	759.00				
	1	73	282.00	6	349.00				
	2	73	311.00	3	1415.00				
	3	73	175.00	3	125.00	17	214.00		
	4	73	312.00	7	324.00	21	154.00		
	5	73	189.00	5	199.00				
	6	73	92.30	2	102.00				
	7	73	109.00	12	64.60				
4435A2	8	72	58.20	30	49.30				
	9	72	84.10	9	56.20				
	10	72	171.00	14	183.00				
	11	72	466.00	4	185.00				
	12	72	593.00	9	924.00				
	1	73	343.00	6	425.00				
	2	73	377.00	3	1722.00				
	3	73	213.00	3	152.00	17	260.00		
	4	73	379.00	7	394.00	21	187.00		
	5	73	229.00	5	243.00				
	6	73	112.00	2	125.00				
	7	73	132.00	12	78.60				

TRIBUTARY FLOW INFORMATION FOR RHODE ISLAND 7/9/74

LAKE CODE 4402 SLATERSVILLE RESERVOIR

MEAN MONTHLY FLOWS AND DAILY FLOWS

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
443541	8	72	68.20	30	49.30				
	9	72	84.10	9	56.20				
	10	72	171.00	14	183.00				
	11	72	466.00	4	185.00				
	12	72	593.00	9	924.00				
	1	73	343.00	6	425.00				
	2	73	377.00	3	1722.00				
	3	73	213.00	3	152.00	17	260.00		
	4	73	379.00	7	394.00	21	187.00		
	5	73	229.00	5	243.00				
	6	73	112.00	2	125.00				
	7	73	132.00	12	78.60				
443501	8	72	1.90	30	1.40				
	9	72	2.20	9	1.50				
	10	72	4.70	14	5.00				
	11	72	12.70	4	5.10				
	12	72	16.10	9	25.30				
	1	73	9.40	6	11.70				
	2	73	10.30	3	47.20				
	3	73	5.80	3	4.20	17	7.10		
	4	73	10.50	7	10.80	21	5.10		
	5	73	6.30	5	6.70				
	6	73	3.10	2	3.40				
	7	73	3.60	12	2.20				
443501	8	72	6.90	30	5.00				
	9	72	8.60	9	5.70				
	10	72	17.50	13	20.00				
	11	72	47.70	4	18.90				
	12	72	60.30	9	94.30				
	1	73	35.00	6	43.40				
	2	73	38.50	3	176.00				
	3	73	21.70	3	15.50	17	26.60		
	4	73	38.70	7	40.20	21	19.10		
	4	73	38.70	7	40.20				
	5	73	23.40	5	24.80				
	6	73	11.40	2	12.70				
	7	73	13.60	12	8.00				
443577	8	72	3.30						
	9	72	4.10						
	10	72	8.40						
	11	72	23.80						
	12	72	29.10						
	1	73	16.80						
	2	73	18.60						
	3	73	10.50						
	4	73	18.60						
	5	73	11.20						
	6	73	5.50						
	7	73	6.40						

APPENDIX B

PHYSICAL and CHEMICAL DATA

STORET RETRIEVAL DATE 74/07/02

440201
41 58 43.0 071 36 18.0
SLATERSVILLE RESERVOIR
44127 RHODE ISLAND

11EPALES
3

2111202
0007 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00630 NO2&NO3 N-TOTAL MG/L	00610 NH3-N TOTAL MG/L	00665 PHOS-TOT MG/L P	00666 PHOS-DIS MG/L P
72/06/03	10 30	0000	19.1	8.0	40	60	5.90	10K	0.100	0.090	0.020	0.009
72/08/01	00 00	0000			60	80	6.10	10K	0.240	0.120	0.050	0.020
	00 00	0004	23.0	8.6		80	6.10	10K	0.290	0.130	0.061	0.021
72/10/06	13 00	0000			56	108	6.70	25	0.820	0.730	0.033	0.013
	13 00	0004	14.1	9.5		108	6.60	10K	0.320	0.080	0.038	0.012

DATE FROM TO	TIME OF DAY	DEPTH FEET	32217 CHLRPHYL A UG/L
72/06/03	10 30	0000	11.7J
72/08/01	00 00	0000	7.9J
72/10/06	13 00	0000	4.6J

K* VALUE KNOWN TO BE LESS THAN INDICATED

J* VALUE KNOWN TO BE IN ERROR

23

STORET RETRIEVAL DATE 74/07/02

440202
41 59 21.0 071 35 50.0
SLATERSVILLE RESERVOIR
44 RHODE ISLAND

11EPALES 2111202
3 0010 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00630 NO2&NO3 N-TOTAL MG/L	00610 NH3-N TOTAL MG/L	00665 PHOS-TOT MG/L P	00666 PHOS-DIS MG/L P
72/06/04	10 50	0000	19.1	8.8	40	60	5.90	10K	0.110	0.120	0.018	0.009
72/08/01	00 00	0000			66	65	6.10	10K	0.180	0.150	0.034	0.019
	00 00	0004	23.8	8.0		65	6.10	10K	0.180	0.120	0.046	0.025
72/10/06	12 30	0000			54	91	7.10	10K	0.360	0.080	0.034	0.012
	12 30	0004	16.3	10.5		91	7.10	10K	0.050	0.070	0.027	0.009
	12 30	0019	14.6	10.2		90	6.95	10K	0.060	0.040	0.031	0.009

DATE FROM TO	TIME OF DAY	DEPTH FEET	32217 CHLRPHYL A UG/L
72/06/04	10 50	0000	6.4J
72/08/01	00 00	0000	4.6J
72/10/06	12 30	0000	16.9J

K* VALUE KNOWN TO BE LESS THAN INDICATED

J* VALUE KNOWN TO BE IN ERROR

STORET RETRIEVAL DATE 74/07/02

440203
41 59 47.0 071 34 59.0
SLATERSVILLE RESERVOIR
44 RHODE ISLAND

11EPALES 2111202
3 0015 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00630 NO2&NO3 N-TOTAL MG/L	00610 NH3-N TOTAL MG/L	00665 PHOS-TOT MG/L P	00666 PHOS-DIS MG/L P
72/06/04	11	15 0000	20.0	6.8	56	60	5.80	10K	0.080	0.040	0.026	0.014
	11	15 0015	17.6	8.6		70	5.80	10	0.090	0.090	0.024	0.020
72/08/01	17	25 0000			60	70	6.30	10K	0.210	0.140	0.040	0.017
	17	25 0004	24.8	8.4		70	6.20	10K	0.200	0.130	0.040	0.019
	17	25 0009	22.0	5.8		75	5.90	10K	0.190	0.240	0.051	0.023
72/10/06	11	50 0000			45	93	6.60	10K	0.080	0.080	0.036	0.014
	11	50 0004	16.2	7.2		91	6.50	10K	0.130	0.210	0.032	0.010
	11	50 0010	16.0	7.4		91	6.45	10K	0.120	0.230	0.029	0.009

DATE FROM TO	TIME OF DAY	DEPTH FEET	32217 CHLRPHYL A UG/L
72/06/04	11	15 0000	2.3J
72/08/01	17	25 0000	4.1J
72/10/06	11	50 0000	14.4J

K* VALUE KNOWN TO BE LESS THAN INDICATED

J* VALUE KNOWN TO BE IN ERROR

APPENDIX C

TRIBUTARY and WASTEWATER TREATMENT PLANT DATA

STORET RETRIEVAL DATE 74/07/02

440241
41 58 30.0 071 37 00.0
BRANCH RIVER
44 7.5 GEORGIAVILLE
I/SLATERSVILLE RESERVOIR
OLD ST HWY 42 BRDG BELO GLENDALE STP
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	11 15		0.235	0.600	0.010	0.014	0.074
72/09/09	08 40		0.445	0.400	0.138	0.019	0.056
72/10/14	10 40		0.190	0.550	0.096	0.008	0.028
72/11/04	09 40		0.169	0.400	0.092	0.011	0.029
72/12/09	09 15		0.147	1.300	0.050	0.005K	0.021
73/01/06	10 20		0.210	0.270	0.034	0.006	0.010
73/02/03	09 45		0.132	0.600	0.056	0.022	0.060
73/03/03			0.336	0.280	0.039	0.008	0.025
73/03/17	10 15		0.350	0.210	0.044	0.006	0.020
73/04/07	11 45		0.132	0.180	0.027	0.005K	0.010
73/04/21	13 00		0.190	0.305	0.015	0.008	0.020
73/05/05			0.160	0.400	0.042	0.010	0.020
73/06/02	09 30		0.018	0.230	0.030	0.007	0.130
73/07/12	10 25		0.294	0.640	0.064	0.015	0.035

STORET RETRIEVAL DATE 74/07/02

4402A2
42 00 00.0 071 35 00.0
BRANCH RIVER
44 7.5 GEORGIAVILLE
O/SLATERSVILLE RESERVOIR
ST HWY 5 BRDG E EDGE OF SLATERSVILLE
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	10 30		0.163	0.800	0.021	0.006	0.030
72/09/09			0.147	0.750	0.121	0.009	0.040
72/10/14	10 10		0.169	0.500	0.126	0.009	0.034
72/11/04	10 35		0.218	0.300	0.095	0.008	0.035
72/12/09	12 30		0.120	0.320	0.036	0.005K	0.035
73/01/06	10 00		0.176	0.110	0.032	0.005K	0.015
73/02/03	10 30		0.176	0.520	0.039	0.013	0.045
73/03/03	10 10		0.252	0.350	0.021	0.005K	0.020
73/03/17	09 15		0.240	0.310	0.011	0.005K	0.015
73/04/07	11 15		0.126	1.680	0.044	0.005K	0.015
73/04/21	09 50		0.120	0.370	0.030	0.005K	0.015
73/06/02	10 00		0.100	0.400	0.033	0.007	0.039
73/07/12	08 30		0.084	0.600	0.044	0.006	0.020

82

STORET RETRIEVAL DATE 74/07/02

4402A3
41 58 30.0 071 38 00.0
BRANCH RIVER
44 7.5 CHEPACHET
O/SLATERSVILLE RESERVOIR
VICTORY HWY BRDG ABOV GLENDALE STP
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	11 25		0.300	0.900	0.022	0.015	0.066
72/09/09	08 45		0.558	0.450	0.153	0.008	0.037
72/10/14	11 00		0.200	0.450	0.105	0.009	0.030
72/11/04	10 00		0.200	0.300	0.088	0.009	0.029
72/12/09	09 40		0.147	0.420	0.035	0.007	0.018
73/01/06	10 15		0.220	0.300	0.039	0.006	0.015
73/02/03	13 45		0.105	0.440	0.044	0.011	0.030
73/03/03			0.357	0.320	0.050	0.005K	0.020
73/03/17	10 30		0.360	0.260	0.031	0.007	0.020
73/04/07	12 05		0.160	0.160	0.017	0.005K	0.015
73/04/21			0.198	0.780	0.050	0.006	0.020
73/05/05			0.150	0.460	0.063	0.008	0.020
73/06/02	10 30		0.220	0.880	0.081	0.008	0.030
73/07/12	10 10		0.310	0.680	0.094	0.019	0.040

STORET RETRIEVAL DATE 74/07/02

4402B1
41 00 00.0 071 35 00.0
BRANCH RIVER
44 7.5 GEORGIAVILLE
O/SLATERS RESERVOIR
ST HWY 5 BRDG E EDGE OF SLATERSVILLE
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/09/26	10 40		0.158	0.425	0.018	0.005K	0.031
72/09/09	08 35		0.152	0.600	0.129	0.005K	0.038
72/10/14	10 20		0.160	0.550	0.138	0.010	0.036
72/11/04	10 45		0.221	0.300	0.088	0.008	0.039
72/12/09	12 30		0.189	0.380	0.039	0.009	0.022
73/01/06	10 00		0.220	0.220	0.034	0.006	0.015
73/02/03	10 15		0.250	0.520	0.040	0.011	0.040
73/03/03	10 15		0.273	0.230	0.030	0.005K	0.020
73/03/17	09 15		0.290	0.270	0.046	0.006	0.020
73/04/07	11 20		0.126	0.170	0.005K	0.005K	0.015
73/04/21	09 45		0.132	0.330	0.017	0.005K	0.015
73/05/05	09 30		0.130	0.640	0.046	0.006	0.025
73/06/02	10 00		0.110	0.460	0.026	0.007	0.044
73/07/12	08 25		0.084	0.420	0.039	0.005K	0.020

STORET RETRIEVAL DATE 74/07/02

4402C1
41 59 30.0 071 35 00.0
TROUT BROOK
44 7.5 GEORGIAVILLE
T/SLATERSVILLE RESERVOIR
TIFFT RD BRDG S OF SLATERSVILLE
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	10 55		0.048	0.350	0.012	0.005K	0.011
72/09/09	08 50		0.028	0.300	0.107	0.005K	0.012
72/10/14	10 40		0.045	0.350	0.096	0.005K	0.014
72/11/04	10 20		0.038	0.150	0.060	0.005K	0.011
72/12/09	10 00		0.126	0.460	0.035	0.005K	0.011
73/01/06	10 15		0.170	0.460	0.052	0.005K	0.005K
73/02/03	11 15		0.126	0.440	0.064	0.010	0.065
73/03/03	10 30		0.176	0.180	0.036	0.005K	0.005K
73/03/17	09 30		0.096	0.170	0.018	0.005K	0.010
73/04/07	10 55		0.115	0.210	0.026	0.005K	0.010
73/04/21	10 00		0.075	0.320	0.027	0.005K	0.010
73/05/05	10 15		0.048	1.540	0.087	0.006	0.015
73/06/02	09 00		0.020	0.290	0.022	0.005K	0.025K
73/07/12	08 20		0.026	0.520	0.063	0.005K	0.015

STORET RETRIEVAL DATE 74/07/02

440201
41 58 00.0 071 36 00.0
TARKILN BROOK
44 7.5 GEORGIAVILLE
T/SLATERSVILLE RESERVOIR
DOUGLAS PIKE BRDG SE OF NASONVILLE
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	12 05		0.042	0.950	0.033	0.005K	0.015
72/09/09	08 30		0.036	0.350	0.084	0.005K	0.016
72/10/13	10 20		0.067	0.450	0.097	0.005K	0.016
72/11/04	09 20		0.047	0.300	0.053	0.005K	0.015
72/12/09	08 50		0.054	0.240	0.012	0.005K	0.008
73/01/06	09 30		0.095	0.180	0.019	0.005K	0.005K
73/02/03	09 00		0.093	0.400	0.017	0.008	0.020
73/03/03	09 00		0.089	1.420	0.120	0.005K	0.010
73/03/17	13 30		0.046	0.290	0.024	0.005K	0.010
73/04/07	11 50		0.029	0.220	0.008	0.005K	0.010
73/04/21	13 15		0.026	0.270	0.015	0.005K	0.010
73/05/05			0.035	0.810	0.069	0.006	0.015
73/06/02	11 00		0.010K	0.370	0.019	0.005K	0.015
73/07/12	10 30		0.039	0.390	0.048	0.005K	0.015

STORET RETRIEVAL DATE 74/07/02

4402E1
41 57 00.0 071 38 30.0
CHEPACHET RIVER
44 7.5 CHEPACHET
T/SLATERSVILLE RESERVOIR
COOPER RD BRDG E OF MAPLEVILLE
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	11 50		0.174	0.650	0.022	0.005K	0.018
72/09/09	08 50		0.137	0.300	0.088	0.005K	0.014
72/10/13	11 15		0.078	0.300	0.074	0.005K	0.014
72/11/04	10 20		0.117	0.400	0.072	0.010	0.021
72/12/09	10 40		0.090	0.330	0.024	0.005K	0.010
73/01/06	11 15		0.132	0.290	0.026	0.005K	0.005K
73/02/03	14 05		0.069	0.460	0.021	0.008	0.015
73/03/03			0.168	0.290	0.035	0.005K	0.015
73/03/17	10 50		0.120	0.280	0.030	0.005K	0.015
73/04/07	14 00		0.052	0.370	0.010	0.005K	0.010
73/04/21	11 30		0.092	0.260	0.018	0.005K	0.010
73/05/05			0.075	0.300	0.032	0.007	0.020
73/06/02	11 15		0.010K	0.270	0.010	0.005K	0.015
73/07/12	10 00		0.138	0.380	0.046	0.005K	0.025

STORET RETRIEVAL DATE 74/07/02

4402F1
41 57 30.0 071 39 00.0
CLEAR RIVER
44 7.5 CHEPACHET
T/SLATERSVILLE RESERVOIR
ST HWY 102 BRDG BELO HARRISVILLE STP
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26			0.240	0.700	0.115	0.010	0.058
72/09/09	09 00		0.296	0.400	0.164	0.006	0.046
72/10/13	11 25		0.100	0.350	0.084	0.007	0.031
72/11/04	10 40		0.126	0.325	0.073	0.008	0.032
73/01/06	10 47		0.176	0.440	0.043	0.006	0.015
73/02/03	13 55		0.100	0.480	0.042	0.010	0.030
73/03/03			0.260	0.420	0.052	0.009	0.020
73/03/17	10 40		0.168	0.220	0.023	0.005K	0.020
73/04/07	13 30		0.088	1.760	0.058	0.005K	0.015
73/04/21	14 00		0.100	0.310	0.025	0.005K	0.020
73/05/05			0.084	1.100	0.120	0.010	0.020
73/06/02	10 00		0.180	0.520	0.052	0.006	0.030
73/07/12	10 15		0.180	0.460	0.058	0.007	0.035

STORET RETRIEVAL DATE 74/07/02

4402F2
41 58 30.0 071 40 30.0
CLEAR RIVER
44 7.5 CHEPACHET
T/SLATERSVILLE RESERVOIR
ST HWY 98 BROG ABOV HARRISVILLE STP
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	13 35		0.230	0.550	0.023	0.028	0.048
72/09/09	08 45		0.330	0.450	0.150	0.013	0.063
72/10/14	09 45		0.071	0.400	0.061	0.009	0.027
72/11/04	09 26		0.078	0.300	0.073	0.008	0.024
73/01/06	09 30		0.160	0.250	0.024	0.007	0.012
73/02/03	09 55		0.065	0.385	0.016	0.008	0.015
73/03/03	10 00		0.168	0.190	0.014	0.009	0.009
73/03/17	11 10		0.126	0.240	0.010	0.005K	0.005K
73/04/11	13 00		0.052	0.155	0.010	0.009	0.015
73/04/21	10 15		0.074	0.250	0.015	0.005K	0.020
73/05/05	09 45		0.056	0.250	0.028	0.008	0.020
73/06/02	09 40		0.098	0.370	0.048	0.008	0.035
73/07/12	08 50		0.176	0.440	0.075	0.015	0.035

STORET RETRIEVAL DATE 74/07/02

4402F3
41 58 00.0 071 43 30.0
CLEAR RIVER
44 7.5 CHEPACHET
T/SLATERSVILLE RESERVOIR
1 MI NW OF PASCOAG BELO WALLUM LK ST STP
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	14 10		0.022	0.700	0.023	0.009	0.030
72/09/09	09 05		0.017	0.300	0.024	0.005K	0.020
72/10/14	10 30		0.040	0.350	0.056	0.007	0.030
72/11/04	10 45		0.023	0.250	0.044	0.006	0.023
72/12/09	10 45		0.056	0.350	0.015	0.015	0.019
73/01/06	10 45		0.060	0.190	0.018	0.010	0.020
73/02/03	10 45		0.120	0.400	0.023	0.008	0.015
73/03/03	11 00		0.069	0.230	0.025	0.005K	0.015
73/03/17	11 50		0.010K	0.180	0.021	0.005K	0.010
73/04/11	13 30		0.010K	0.230	0.005K	0.007	0.015
73/04/21	10 45		0.010K	0.215	0.012	0.005K	0.015
73/05/05	10 45		0.010K	0.420	0.045	0.005	0.017
73/06/02	11 10		0.010K	0.540	0.033	0.006	0.015
73/07/12	09 05		0.020	0.440	0.026	0.005K	0.015

STORET RETRIEVAL DATE 74/07/02

4402F4
42 00 00.0 071 45 30.0
CLEAR RIVER
44 7.5 OXFORD
T/SLATERSVILLE RESERVOIR
BRDG NE OF WALLUM LK ABOV SANITARIUM STP
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26	14 45		0.019	0.400	0.020	0.005K	0.005K
72/09/09	09 15		0.045	0.150	0.039	0.005K	0.005K
72/10/14	10 40		0.065	0.200	0.075	0.005K	0.005K
72/11/04	11 00		0.060	0.150	0.048	0.005K	0.005K
72/12/09	11 15		0.147	0.350	0.014	0.005K	0.006
73/01/06	11 15		0.036	0.170	0.014	0.005K	0.005K
73/02/03	11 00		0.048	0.360	0.010	0.005K	0.005
73/03/03	11 20		0.032	0.150	0.030	0.005K	0.005K
73/03/17	13 00		0.025	0.240	0.013	0.005K	
73/04/11	13 40		0.015	0.190	0.005K	0.005K	0.005
73/04/21	11 00		0.020	0.200	0.019	0.005K	0.005K
73/05/05	11 10		0.022	0.230	0.034	0.005K	0.005K
73/06/02	10 50		0.017	4.600	0.315	0.005K	0.015
73/07/12	09 20		0.013	0.130	0.012	0.005K	0.005K

STORET RETRIEVAL DATE 74/07/02

4402G1
41 58 00.0 071 42 00.0
PASCOAG RIVER
44 7.5 CHEPACHET
T/SLATERSVILLE RESERVOIR
BRDG BETWEEN PASCOAG AND BRIDGETON
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
72/08/26			0.104	1.200	0.075	0.160	0.340
72/09/09	08 55		0.137	0.600	0.178	0.031	0.105
72/10/14	10 00		0.100	0.250	0.110	0.034	0.072
72/11/04	09 52		0.041	0.300	0.048	0.022	0.065
72/12/09	10 05		0.100	0.540	0.022	0.013	0.028
73/01/06	10 00		0.176	0.580	0.050	0.021	0.060
73/02/03	10 05		0.160	0.650	0.042	0.013	0.040
73/03/03	10 30		0.092	0.630	0.058	0.022	0.070
73/03/17	11 30		0.220	1.360	0.130	0.058	0.230
73/04/11	13 15		0.024	0.260	0.015	0.008	0.015
73/04/21	10 30		0.092	0.810	0.042	0.032	0.140
73/05/05	10 15		0.027	0.360	0.046	0.014	0.035
73/06/02	10 10		0.036	0.670	0.115	0.016	0.020
73/07/12	09 00		0.105	0.540	0.200	0.028	0.060

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STORET RETRIEVAL DATE 74/07/02

440250 P000923
41 58 30.0 071 45 00.0
WALLUM LAKE ST. SAN.
44 7.5 CHEPACHET
T/SLATERSVILLE RES
CLEAR RIVER
11EPALES
4 2141204
0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
72/10/04	07 15								
CP(T)-									
72/10/04	14 45		3.100	7.700	1.890	5.600	10.400	0.100	0.100
72/11/09	07 45								
CP(T)-									
72/11/09	15 15		0.410	30.000	2.100	1.850	7.600	0.080	0.070
72/12/06	07 15								
CP(T)-									
72/12/06	14 45		4.500	17.800	2.100	5.600		0.090	0.090
73/01/04	07 15								
CP(T)-									
73/01/04	14 45		5.760	10.500	0.810	2.520	7.700	0.080	0.070
73/02/07	07 15								
CP(T)-									
73/02/07	15 00		1.370	15.400	6.600	3.600	4.900	0.080	0.080
73/03/14	07 30								
CP(T)-									
73/03/14	15 00		2.000	5.300	0.670	5.000	5.500	0.060	0.070
73/04/12	07 00								
CP(T)-									
73/04/12	15 00		3.125	3.400	0.525	5.700	6.300	0.080	0.080
73/05/09	08 00								
CP(T)-									
73/05/09	15 00		4.300	5.800	0.820	6.000	6.900	0.060	0.075
73/06/06	07 00								
CP(T)-									
73/06/06	15 00		5.900	2.500	0.440	6.600	7.000	0.080	0.080
73/07/12	07 00								
CP(T)-									
73/07/12	15 00		3.360	2.200	0.210	4.300	5.500	0.080	0.080

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